Planning Effective Burndown Programs for 2017

Mild winter conditions favor materialized vegetation on fall burndown or tillage neglected areas. Even where fall burndown herbicide or tillage took place, warmer winter conditions may facilitate quicker herbicide degradation and perhaps unexpected weed escapes. Mild conditions promote shortened weed dormancy resulting in large weeds being present prior to spring treatment. Large winter annual weeds such as cressleaf groundsel often intercept herbicide patterns prior to reaching targeted driver weeds jeopardizing efficacy.

Dense spring weed populations provide attractive environments for migratory insects such as black cutworm moths to lay eggs. After larvae hatch soybean cutting or migration into corn is common. If dense weed populations are left alone until just prior to planting herbicide efficacy will be compromised. Additionally, late spring burndown herbicide treatments facilitate dense mattes of decaying weed vegetation creating cooler, moister soil environments conducive for diseases that damp off seedlings.

Furthermore, adequate seedbeds facilitating optimal soil-to-seed contact can be diminished if planting occurs through dense vegetation. A weed-free seedbed is a critical component of establishing stress mitigation and yield trajectory for the season. Timely spring burndown treatments will be vital for optimizing weed management as well as promoting weed desiccation and soil drying/warm up prior to planting.

Challenges With Late-Spring Burndown Herbicide Treatments

Key Points to Optimize Weed Management and Early-Season Yield Trajectory

1. Manage spring weeds early, as soon as field and environmental conditions are favorable.
2. Utilize effective burndown and residual treatments on driver weed species.
3. Only plant into a weed-free seedbed.
4. If possible, allow time between application and planting for vegetation to desiccate and soil to warm up.
5. If dense vegetation is still decaying just prior to planting utilize insecticide/fungicide seed or in-furrow treatment to mitigate insect and disease concerns.
Staying Ahead of Marestail

In most areas of the Midwest marestail exhibits two primary emergence periods. The first being late summer after seed drop and into the fall, and the second being spring emergence. Plants will stay in the rosette stage until stem elongation which typically occurs from mid April to early May depending upon how far south or north in IL/IN. Plants that emerged in the fall will bolt earlier than spring germinators. Applications occurring prior to or just after stem elongation will optimize herbicide efficacy. Marestail resistant to glyphosate, ALS-inhibitors and multiple resistance to both sites of action are becoming more frequent. Relying on glyphosate or combinations with FirstRate® herbicide or Classic® herbicide will likely not provide acceptable foliar activity in most field situations. Soil treatments of ALS-herbicides have been more efficacious on ALS-resistant marestail vs. foliar applications. However, diverse programs relying on additional sites of action in the soil including sulfentrazone - the active ingredient in Authority® brand herbicides - and metribuzin will be critical to manage glyphosate + ALS-resistant marestail. Other summer annuals such as waterhemp and Palmer amaranth have evolved resistance to multiple sites of action and in many cases are present when applying burndown herbicide treatments just prior to planting. Many burndown herbicide treatments rely on the PPO-inhibiting herbicide, saflufenacil (Sharpen® herbicide) for foliar activity on marestail. Often tank mixtures with glyphosate are employed. While this can be effective on marestail it will now be critical to scout fields to determine if glyphosate-resistant pigweed and foliar applications of PPO-inhibiting herbicides are present and adjust herbicide plans as necessary. Employing burndown plus residual treatments targeting marestail as early as possible will be critical to optimizing weed control and planting conditions.

Marestail Management Guidelines

1. Use fall applications provide manageable weed heights / densities in the spring.
2. Early spring burndown (no fall application, extremely high marestail density, vertical tillage planned)
   A. This should not substitute the at-plant burndown plus residual
      ✓ Glyphosate 1 lb ae/a + 2,4-D 16 oz. OR dicamba 8 oz. + metribuzin 4-6 oz.
         - 2,4-D @ 16 oz. – 7 Day Plant Back, dicamba @ 8 oz. 14 days + 1” rainfall plant back.
   B. At-Plant burndown + Residual
      ✓ Paraquat 44-48 oz. OR Liberty 32-36 oz. + Authority® brand herbicides
         ▪ Authority® MTZ DF herbicide 14-16 oz. (Refer to label for maximum metribuzin rate by soil parameters)
         ▪ Authority® First DF herbicide 4-6 oz.
         ▪ Authority® Maxx herbicide 5-6 oz.
         ▪ Authority® XL herbicide 4-6 oz.
         ▪ Anthem® herbicide 2.5-4 oz. + metribuzin 5 oz. (Refer to label for maximum metribuzin rate by soil parameters)
3. Preplant Application
   A. 7-10 Days Prior to planting
      ✓ Glyphosate 1 lb ae/a + 2,4-D 16 oz. + metribuzin 5-6 oz. + Authority brand herbicides
         ▪ Authority MTZ DF herbicide 14-16 oz. (No additional metribuzin needed in burndown)
         ▪ Authority First DF herbicide 4-6 oz.
         ▪ Authority Maxx herbicide 5-6 oz.
         ▪ Authority XL herbicide 4-6 oz.
         ▪ Anthem herbicide 2.5-4 oz. + metribuzin 5-6 oz. (No additional metribuzin needed in burndown)
4. At Plant Application (Hopefully this only occurs if conditions prohibit bullet points 2 and 3)
   A. Less than 7 days prior to planting – 3 days after planting
      ✓ Liberty herbicide 32-36 oz. OR paraquat 48 oz. + metribuzin 6 oz. + Authority brand herbicides
         ▪ Authority MTZ DF herbicide 14-16 oz. (no additional metribuzin needed in burndown)
         ▪ Authority First DF herbicide 4-6 oz. (Has been added to tank-mix approval list for Xtendimax™ with Vapor Grip™)
         ▪ Authority Maxx herbicide 5-6 oz.
         ▪ Authority XL herbicide 4-6 oz.
         ▪ Anthem herbicide 2.5-4 oz. + metribuzin 5-6 oz. (no additional metribuzin needed in burndown)
5. Substitute tillage if weeds are too tall to manage with herbicides
6. Soybean Trait Systems
   A. LibertyLink® or Roundup Ready 2Xtend® Soybean Varieties
      ✓ Offer postemergence options with activity on marestail
Always read and follow label directions. NOTE REGARDING RESTRICTED USE PESTICIDES: Anthem ATZ herbicide; Athena insecticide, Brigade 2EC Insecticide/Miticide, Brigade WSB Insecticide/Miticide, Brigadier Insecticide Capture 3RIVE 3D insecticide, Capture LFR Insecticide, Declare insecticide, Hero Insecticide, Mustang Insecticide, Mustang Maxx Insecticide, Pounce 25WP Insecticide, Stallion Brand Insecticide, Temitry LFR Insecticide/Fungicide, Triple Crown Insecticide, Ethos XB Insecticide/Fungicide and Gladiador Insecticide/Miticide are Restricted Use Pesticides.

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